DOCUMENT RESUME

ED 201 941 CG 015 172

AUTHOR Cotton, Stephen D.; Oransky, Karol S.
TITLE Systems Theory: Movement from a Conceptual Perspective to a General Theory of the Family.
PUB DATE [79]
NOTE 27p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Behavioral Science Research; *Family (Sociological Unit); *Family Life; Family Relationship; Group Experience; Prediction; *Research Methodology; *Social Behavior; Social Science Research; State of the Art Reviews; *Systems Approach; *Theories
IDENTIFIERS *Conceptual Models

ABSTRACT

Recently, a surge of interest in the development of a general theory to coordinate the volume of literature dealing with the family has developed. Systems theory suggests that: (1) human systems experience constant interaction with other systems; (2) component parts of systems are valuable and influential; and (3) living systems operate to acquire useful information. Families are dynamic entities with complex structural rules to regulate the distance between members of a system. When systems theory is applied to the study of the family, its explanatory and predictive value can be realized in the form of proposition and testable hypotheses. Systematic organization of the ideas associated with systems theory promotes the advantageous use of universal terms and propositions toward explaining family behavior. A general systems theory may be useful in explaining and predicting patterns of family behavior. (Author/NRB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED201941

OCT 17 1980

Systems Theory: Movement from a Conceptual Perspective to a General Theory of the Family

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Suzanne Steinmetz

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Stephen D. Cotton
Graduate Student
Florida State University

Karol S. Oransky
Graduate Student
Florida State University

CG 015172

Systems Theory: Movement from a Conceptual Perspective to a General Theory of the Family

Introduction

There has been a recent surge of interest in the development of a general theory which would serve to coordinate the mass of literature dealing with the family (Burr et al., 1979). A useful theory of the family is one that is capable of explaining and to a certain extent, predicting, behavior through the development of "a group of interrelated propositions with multiple levels of generality" (Burr, 1973). At this time only one theory, Choice and Exchange (Nye, 1979), is sufficiently developed in propositional form to warrant the distinction of general theory. It is the authors' belief that the contribution made by Choice and Exchange Theory can be enhanced by the development of additional models to the level of a general theory. The rationale behind this belief is that different theories permit and demand that similar circumstances be viewed in different ways, encouraging a wider view of the circumstance. The state of the art of theory building in the study of the family suggests there is no "right" theory, mandating that all possible frameworks be fully explored for helpful and insightful explanations of human behavior. It

OCT 1 4 1980

is in that spirit that this paper seeks to develop Systems Theory, as described by Bertalanffy (1968) and Buckley (1967), to a more general level.

Since its development and original presentation in 1937 by Ludwig von Bertalanffy, a biologist, Systems Theory has found application in a wide variety of scientific disciplines. As Bertalanffy states, "Systems thinking plays a dominant role in a wide range of fields from industrial enterprise and armaments to esoteric topics of pure science" (1968). The concept of a systems approach has been instrumental in the formation of family therapy (Bowen, 1971) and has been utilized in several works on the family (Broderick & Smith, 1979; French, 1977; Kanter & Lehr, 1975). The apparent universality of ideas common to Systems Theory suggests the presence of powerful concepts capable of explaining human behavior in a manner more comprehensive than previously attainable. Another benefit to the universality of Systems Theory is the opportunity for "a common vocabulary unifying the several behavioral disciplines" (Buckley, 1967). To date, only sporadic efforts to formally develop the underlying premises comprising Systems Theory have been made (Wilkinson, 1977).

Foci of Study

When using the term "system," the definition we are using describes a system ". . .as a complex of elements or components directly or indirectly related in a causal

network, such that each component is related to at least some others in a more or less stable way within any particular period of time" (Buckley, 1967). This definition can be applied to a wide range of phenomena. While our theoretical discussion will require some exploration of the more general properties connected with Systems Theory, the major effort of this paper will be to organize the explicit and implicit concepts of Systems Theory as applied to the Family. Primarily, we are concerned with the theoretical development of Systems Theory. Examination of the application of Systems Theory to the research will be accomplished by suggesting some testable hypotheses, exemplifying the utility of this theory at the empirical level.

In general, Systems Theory lends itself to the creation of a five-level hierarchy of propositions and hypotheses. At the most general level are Universal propositions that relate to all organic systems. At the next level are General propositions which are more readily applied to family behavior. More Specific propositions can be deduced from those general propositions which lead into two types of hypotheses. First are those hypotheses suggesting the direction inter-personal and multi-personal (such as family) relationships will develop and the second type dealing with intra-personal dynamics. Thus, Systems Theory allows discussion ranging from the macro to micro level of behavior.

Major Concepts

A review of the major works on Systems Theory (Bertalanffy, 1968; Buckley, 1967; and Broderick & Smith, 1979), has indicated that tremendous amounts of energy have been expended toward delineating concepts and definitions in the attempt to describe Systems Theory. Unfortunately, to this point in time, Systems Theory itself has largely been restricted to these sets of definitions and concepts, with little attention toward their utilization in furthering a general Systems Theory. Many of the previous writers have gone to great lengths to describe and define their terminology and the intricate processes involved in interaction, both among and within systems. It seems, however, that the cumbersome nature of this focus has restricted Systems Theory to a state of concentrating heavily on concepts and their explanations to the exclusion of the development of the general theory.

It is not our intention to ignore this fundamental element of the theory, but rather to refrain from allowing it to be the primary focus. Instead, we have compiled concepts inherent to a basic understanding of Systems Theory and in addition, changed, modified, excluded or added those concepts which readily afford simple interpretation of our present intent--the movement of Systems Theory from a conceptual perspective to a general theory.

System--a complex of elements or components directly or indirectly related in a causal network, such that each

component is related to at least some others in a more or less stable way within any particular period of time (Buckley, 1967).

Sub-system--any system which is being considered as part of a larger system.

Family system--a group of individuals with a history and a future, related by blood or marriage, who share the properties of other social systems; they are organizationally complex, open, adaptive and information-processing systems.

Primary social network--usually refers to the family, but as it is used here, also includes the network of significant others with which the individual frequently interacts.

In the Systems Theory literature, particular processes and elements common to all systems have been identified. All systems share certain properties. Most often, the concepts and properties defined below utilize the labels attached to them by previous authors. Where necessary, however, changes have been made.

Boundary--existence of a line (figuratively) which delineates the elements belonging to the system and those belonging to the environment. Units inside the system have a higher level of interaction among themselves than with units outside of the system (Broderick & Smith, 1979).

System boundaries vary from open to closed. Families and other social groups are described as open systems.

Open systems--interaction with the environment is an essential factor underlying the system's viability, its continuity and its ability to change (Buckley, 1967). The open system regularly engages in interchanges with the environment and within the system.

Closed systems--interaction is limited to within that system's boundary to the exclusion of interaction with the environment. While not normally found in nature, these systems which resist and limit interaction with the environment will be referred to as closed systems.

Environment--the total of circumstances and conditions surrounding and affecting the system. The environment includes the physical, social and cultural conditions.

In general Systems Theory, systems are viewed as dynamic, adapting to the environment via processing and utilizing input information into the system. Independent of the sophistication of society, the mode of information processing remains a critical variable in the dynamic adaptation of societies.

Dynamic systems--systems characterized by continuous response to their internal needs, external goals and their environment, tending toward movement.

Adaptation--a change or adjustment by the system which will serve to promote the system's survival and efficiency. Systems are capable of changing and responding productively to internal and external stimulation. Systems can change or elaborate their actions and structures with new information processed by the system.

Evolution--the process by which the system adapts to the external environment, by means of progressively higher levels of development and greater complexity.

The system utilizes input information and feedback, and processes this information in its development toward higher levels of complexity.

Input--information (stimulus) from the environment which enters the system.

Output--any response which the system emits back into the environment.

Feedback--sources of information from the environment. The system's ability to perceive its own output at one point as input at some subsequent point (Broderick & Smith, 1979).

Rules of Transformation--rules established by the individual system which govern the process of response to an input, movement of the input through the system, to the point of output. These rules, in effect, prescribe the familial response to any of a very wide range of possible inputs, at the family level.

Morphogenesis--processes that tend to elaborate or change a system's given form, structure or state. The generation of new rules of transformation. Opposed to morphogenesis is the concept of morphostasis.

Morphostasis--processes that tend to preserve or maintain a system's given form, structure or state.

Functional System--a system which satisfies its internal needs and external goals.

Needs--conditions of growth that are necessary for the maintenance, growth and self-actualization of human organisms (Maslow, 1968).

Goal--the purpose toward which a system's endeavors are directed.

Basic Assumptions

Whenever a sociocultural theory is written, whether it be a theory of mate selection or a theory viewing family interaction, basic assumptions about the nature of human beings and their interactions are at its foundation. Systems Theory in the past has suffered from the lack of the clear and concise statements of basic assumptions.

This is not to say that assumptions are nonexistent but rather that they are often implied, instead of explicitly stated in a logical and organized fashion (e.g., Bertalanffy, 1968; Kantor & Lehr, 1975; and Broderick & Smith, 1979). A theory becomes far more meaningful and considerably more consistent when its basic assumptions are clearly recognized, organized and stated. It is important that propositions logically and consistently follow from these assumptions, where assumptions represent the underlying beliefs about interactions between organisms and their environment. Thus, the focus here is toward clear and concise statements of the supposed true state of nature.

1. Matter cannot be created or destroyed. This assumption is supported by the second law of Ecology, "Everything must go somewhere" (Commoner, 1971), an informal restatement of a basic law of physics, that matter is indestructable. Recognizing the historical difficulty with generalizing the physical laws to complex social systems, the fact still remains that matter is indestructable. If matter can't go anywhere, then we assume its existence must somehow influence the existence of other matter.

2. Nothing exists in isolation. ("Everything that lives, lives not alone, nor for itself"--Robert Blake). This assumption is basic to the systems approach, where no individual component may be viewed without also recognizing its impact upon other components and other components upon itself. There are no examples in nature of anything which exists entirely on its own. Although some organisms do in fact reproduce themselves (e.g., single cell organisms), they do not exist in isolation from other similar organisms or their surrounding environment.

3. All matter influences all other matter. The physical laws embodied in the notions that matter cannot be created or destroyed or exist in isolation reinforces this basic underlying assumption: that all matter is interrelated to some degree. The realization of this concept has recently become readily apparent as scientists have begun demonstrating the impact of pollution on the environment (Commoner, 1971).

While it often seems beyond comprehension to understand how seemingly minute occurrences can be influential, the multiple examples of inter-connectedness (the human body, computers, nature's food chain) imply that our failure to discern the influence of a particular occurrence is more the result of unsophisticated reception than the nonexistence of the influence.

The above three assumptions are felt to be basic to understanding the essence of Systems Theory. If matter cannot be destroyed, if nothing exists in isolation and all matter influences other matter, then the conditions are present for the interaction between components which is the critical aspect of Systems Theory. With these as a foundation, we are able to move to more specific assumptions.

4. The environment is dynamic. The environment is characterized by continued change. It does not remain static but rather tends toward movement.

5. Events and behavior cannot be separated from the environmental context. The first law of ecology--"everything is connected to everything else," reflects the existence of an elaborate network of inter-connections between different living organisms, between populations species, and individual organisms and their physico-chemical surroundings (Commoner, 1971). Additionally, at the macro level of society social organizations and institutions will interact.

6. Systems are differentiated by their organizational structure (uniqueness). "The key to substantive differences in systems lies in the way they are organized, in the particular mechanisms and dynamics of the interrelations among the parts and with the environment" (Buckley, 1968).

7. The process of evolution is a rational explanation for systems' movement toward complex levels of development. We have seen, in assumptions five and six, that interaction with the environment is ongoing and ever-present. Additionally, it is assumed that those organisms and systems which have prospered are those organisms and systems able to adapt to the dynamic environment. Thus, "the typical response of open systems to environmental interaction is elaboration or change of their structure to a higher or more complex level" (Buckley, 1968).

8. There is an inherent or heuristic value in systems moving toward higher levels of development (morphogenesis).

9. Information will always be functional for the system. Any accurate information (input into the system) will serve some function for the system. This input, positive or negative, will provide the system with the impetus toward further development (i.e., movement toward positive and rewarding goals, movement away from negative or costly goals).

10. There is a scarcity of resources requiring movement with the expenditure of energy to acquire the necessary resources. "Human societies operate under conditions of

perpetual scarcity for most resources needed for the lives of its members" (Sprey, 1979). Because of the existence of an environment with scarce resources, systems must expend energy in the effort to plan to acquire these scarce resources. The intake of information, processing of information and interaction between the system and the environment, enables the system to utilize its energy with movement toward the resources necessary for the system's survival.

Propositions

In order to organize the following propositions the following notation system will be used. Universal and general propositions will be prefaced by a single number. Specific propositions will have a number with a decimal and then ordered by number. Testable hypotheses of both types will be designated by an H followed by the proposition number and a lower case letter.

Universal Propositions

The basic assumptions suggest two broad propositions:

1. All matter has value relative to other matter. This proposition pulls out the idea that all human and nonhuman systems are built on interconnected building blocks and while systems may vary greatly in their organization, there will be common elements. This proposition requires that no value judgment be made on the relative importance of components of a system but rather all components have value and influence.

A vivid recent example illustrates the point. The crash of a DC-10 outside of Chicago was linked to the fracture of a three-inch bolt in a wing pylon. The subsequent groundings of the DC-10 had a profound effect on the travel of a phenomenally large number of people.

2. Organic (open) systems seek information and will expend energy to attain information. In order to successfully achieve goals and satisfy needs (see propositions 3 and 4) all organic systems must have some means of acquiring information about their life-sustaining environment. The purpose of this proposition is to suggest the motivation behind the interaction and movement of systems. Living systems are guided and impelled by a need to integrate as much information as the system is able to process and the system will expend energy for that purpose. At the family level this could be stated as a more specific proposition:

2.1. Families which process more information more efficiently will [prosper,] other things being equal, compared to families lacking information input.

General Propositions

3. All systems function toward goal attainment. The first proposition in the general area is consistent with Kantor and Lehr's view of family systems, that "family systems, like all social systems are organizationally complex, open, adaptive, and information-processing systems" (1975). On the basis of empirical observations of families

in their natural setting, Kantor and Lehr assert that family systems seek to attain their goals by family strategies--"purposive pattern of moves toward a target or goal made by two or more people who are systematically bound in a social-biological arrangement" (1975).

3.1. Those systems which more effectively attain their desired goals are more likely to actualize their potential.

4. All systems function to satisfy needs. Living systems are not self sufficient. They must acquire energy and other resources from the environment to maintain the organizational structure and integrity of the system. Need satisfaction refers to internal requirements. The above two propositions indicate that systems are in fact dynamic. Systems will move toward the satisfaction of their internal needs and external goals and toward adaptation to their environment to facilitate need satisfaction. "Societies and groups continually shift their structures as adaptations to internal and external conditions" (Buckley, 1968).

4.1. Those systems that more effectively satisfy their needs are more likely to actualize their potential.

5. Systems are differentiated by the manner in which they are organized. All systems share certain identifiable properties. It is possible, however, to differentiate those systems from simple to complex levels of development, by the manner in which they are organized. Although the processes of interaction and development are shared, each individual

system will be characterized by some unique properties. The significance of differentiation in characterizing systems is implied by the following specific proposition.

5.1. Systems will tend to act in such a wayas to preserve their uniqueness.

6. Systems will move from simple to complex in their organization and development. (Movement from simple to complex involves interaction with intra- and extra-system components). Dynamic systems will tend to move from simple to complex in their organizational structure (Buckley, 1968). The movement to more complex organization allows the system to be in contact with more resources for their need satisfaction and to be exposed to varying alternatives in their system goal movement. The more complex and organized system can more effectively and efficiently process greater amounts of information toward satisfaction of the system's needs and attainment of external goals. In addition, the complex and organized system promotes effective interaction with intra- and extra-system components.

6.1. The family which has developed a highly organized structure will more effectively process information than a less organized family.

6.2. The family which can process more information will be able to maintain successful interaction with more external systems than the family processing less information.

H6a. The more highly educated family will be involved with more community organizations than a less educated family.

H6b. The family with less education will tend to have more contact with primary social network systems than families with more education.

Since a basic premise of Systems Theory involves the continual interaction of systems and the environment, some propositions delineating that relationship are in order.

7. The ability of a system to maximize its developmental potential will be dependent on the interaction of the environment and the system. To maximize development connotes the freedom of having one's needs satisfied and being unimpeded in arriving toward goal attainment. Some more specific propositions state:

7.1. In the presence of an impoverished environment, a system will be less likely to maximize an individual's development, other things being equal.

This proposition is congruent with Maslow's (1968) notion of hierarchy of needs in which the more basic needs (food, clothing, shelter) must be satisfied before higher-level needs (self-actualization, achievement, social approval and competence) can be attempted. However, Systems Theory brings in the critical importance of the environmental status. Being poor or living in a poor culture can critically affect the manner in which needs are satisfied.

7.2. In the presence of a nurturant and supportive environment, a system will have a greater opportunity to maximize development, other things being equal.

H7a. Family systems with high incomes will be more mobile than individuals and families with low incomes.

H7b. Family systems which are more mobile will be more functional in reaching family goals than families who are less mobile.

When considering factors influencing systems, an additional variable is the relative condition of those systems with which there is frequent interaction.

8. A system's freedom to maximize development is directly related to the function or dysfunction of those elements of the system with which there is frequent interaction.

This proposition takes into account the state of the sub-system or components involved. Not only must the environment be considered when examining the functionality of a system but also the health of the interdependent components.

8.1. If a system's immediate social network contains disabled or unhealthy elements, then the system's opportunity for maximum development will be impeded.

H8a. The child with overly dependent parents will have less opportunity to form relationships outside the family system than a child with parents whose dependency needs have been met (Bowen, 1978).

8.2. If a system's immediate social network has no disabled or unhealthy members, then that system will have greater opportunity for maximum development, other things being equal.

9. Families with more members who are able to meet individual goals will be more functional in meeting family system goals compared to families with fewer satisfied members. This proposition suggests there are primary differences between higher and lower classes and rich and poor cultures. If an individual is free (because of a nurturant environment and non-demanding family members--propositions 7 and 8) to experience a greater number of situations, s/he will then be more adaptive because of the increased information available; s/he is in fact in an advantageous position compared to others whose freedoms are confined because of economic and social factors. This individual's health contributes to the positive function of the family system.

9.1. Middle-class families are more likely to have individual family members realize their individual goals than lower-class families. An additional class distinction would be:

9.2. Families who have a higher level of education will have a higher standard of living. In this instance, education implies a family with more information available, making them more adaptive and aware of alternatives than families with less education. A vicious cycle becomes apparent:

9.3. Lower-class families are more likely to have impoverished environments and dependent members than middle-class families. The tendency of poor countries to have high birth-rates and frequent illnesses in conjunction with the trend for lower-class families to have single heads of households and more children supports this proposition.

An additional consideration is the system which, for whatever reason, is separated from significant supportive interaction with a primary social network. From earlier propositions we would deduce that:

10. Systems with limited interaction with a primary social network will be less likely to prosper than systems with supportive and interacting social relationships. This idea is similar to the classic experiment by Harry Harlow in which infant monkeys, who were raised by wire-cloth surrogate mothers, would venture into a strange environment only after reassuring clutching to the surrogate. On the other hand infants placed in the same environment without the wire-cloth surrogate would cower in a corner without any effort to explore the environment (Morgan & King, 1971). This "secure home base" concept has also been applied to human infant development (Ainsworth, 1973). Evidently, human beings have so many needs met in a primary social network, like a family, or assistance in meeting needs, that goal attainment is affected by the presence or absence of secure relationships to a significant degree.

10.1. Individuals with supportive family relationships will more efficiently satisfy their needs and attain their goals than individuals separated from supportive relationships. This specific proposition refers to the interaction highlighted by basic propositions suggesting the importance of interaction. At this level, an individual is viewed as a subsystem whose growth is related to the nature of the interactions with the larger system, i.e., the family. The opposite also holds.

10.2. Individuals without supportive relationship networks will be less likely to prosper.

The earlier discussion alerted us to the negative impact over-involvement in the family can have, while these last propositions suggest no or minimal involvement can also have negative consequences.

11. The extremes of either over-involvement in a primary social network or separation from a primary social network are inversely related to individual prosperity. Awareness of the negative consequences inherent in either extreme of family structure, or lack of structure, presents an opportunity to quantify families on spatial and temporal variables. According to the theoretical propositions presented, if the distance (in space and time) maintained between family members is known, then a prediction can be made about the functionality of the family. In propositional form:

11.1. Families in which members choose, or are encouraged, to be excessively separated, will be less functional than families in which members are more closely involved, other things being equal.

11.2. Families in which members are enmeshed in the family, to the exclusion of individual development, will be less functional than families where individual movement is possible, other things being equal.

Further, earlier propositions (7.1 and 8) enable us to make a prediction concerning the amount of distance between family members:

11.3. Families in which the distance between members is at neither extreme (too enmeshed or disengaged) will be more functional. Olson et al. (1979) in their work on the circumplex model also conclude that avoidance of the extremes is a critical variable for family functioning.

In addition, the significance of family distance was perceived by Kantor & Lehr (1975) when they asserted, "the information processed by the family is distance-regulation information" (p. 12). Also, the process of distancing has been characterized by the Family Psychiatry movement, as the process of differentiation in which the poorly differentiated individual is enmeshed in the family's affective patterns to the detriment of the individual's personal maturation (Bowen, 1971). On the other hand, Durkheim's (1897) postulation that a sociological factor in suicide was an individual's isolation

from significant social support networks, indicates people require some degree of social support. A more recent study tends to confirm that idea. Thomas & Duszynski (1974) compared medical students, who later committed suicide and contracted diseases, and their respon es to a Family Attitude Scale. They concluded that, "Subjects in the suicide, mental illness and tumor groups had mean scale scores indicating lack of closeness to parents" (p. 251). In the interaction between an organism, the primary social network and the environment, distance can be a powerful predictor of success or failure of the organism according to the propositions developed from Systems Theory.

Discussion

Systems Theory suggests that human systems are consistent with other living systems in that there is constant interaction with other systems, component parts of systems are valuable and influential and living systems operate to acquire information that is useful in meeting needs and attaining goals. Families are dynamic entities who have complex rules of structure. It is apparent that those rules serve to regulate the distance between members of a system. These and other ideas become readily available to the theorist and student of Systems Theory once the basic assumptions and concepts are clearly and explicitly stated. While Systems Theory has applicability to a wide range of topics, if it is applied to the study of the family then its tremendous power of

explanation and prediction can be realized in the form of propositions and testable hypotheses. We have chosen to remain at the macro level during the majority of our discussion to more fully develop the theoretical potential of the theory rather than explore substantive areas to any great extent. However, the general theory we propose has utility in explaining micro-level behaviors.

In the development of a general Systems Theory, it has been our attempt to provide the theoretical foundations for future examinations of families and their behavior from this perspective. We have systematically organized the ideas associated with Systems Theory to promote the advantage of universal terms and propositions toward explaining family behavior. The broad universal propositions have been identified which hold true at all other levels of propositions. It is through the propositional statements that the interaction and recognition of the value of component parts is emphasized. We believe that a general Systems Theory provides the opportunity to explain and predict family behavior.

REFERENCES

Ainsworth, M. D. S. The development of infant-mother attachment. In Bettye M. Caldwell & H. N. Ricciuti (Eds.), Review of Child Development Research (Vol. 3). Chicago: University of Chicago Press, 1973.

Bertalanffy, L. v. General System Theory, Foundations, Development, Applications. New York: George Braziller, Inc., 1975.

Boulding, K. General systems theory--the skeleton of science. In W. Buckley (Ed.), Modern Systems Research for the Behavioral Scientist. A Sourcebook. Chicago: Aldine Publishing Co., 1968.

Bowen, M. The use of family theory in clinical practice In J. Hayley (ed.), Changing Families. A Family Therapy Reader. New York: Grune and Stratton, 1971.

Broderick, C. & Smith, J. The general systems approach to the family. In W. R. Burr, R. Hill, F. I. Nye, I. L. Reiss (Eds.), Contemporary Theories about the Family (Vol. II). New York: The Free Press, in press.

Buckley, W. (Ed.). Modern Systems Research for the Behavioral Scientist. A sourcebook. Chicago: Aldine Publishing Co., 1968.

_____. Sociology and Modern Systems Theory. New Jersey: Prentice Hall, 1967.

Burr, W. R. Theory Construction and the Sociology of the Family. New York: John Wiley & Sons, Inc., 1973.

Burr, W. R., Hill, R., Nye, F. I., Reiss, I. L. Contemporary Theories about the Family. New York: The Free Press. Vol. I, 1979. Vol. II, in press.

Commoner, B. The Closing Circle. Nature, Man and Technology. New York: Alfred A. Knopf, 1971.

Durkheim, E. Suicide, A Study in Sociology. (J. A. Spaulding & J. Simpson, trans.). Glencoe, Ill.: Free Press, 1951.

French, A. P. Disturbed Children and Their Families. Innovations in Evaluation and Treatment. New York: Human Sciences Press, 1977.

Hage, J. Techniques and Problems of Theory Construction in Sociology. New York: John Wiley and Sons, 1972.

Haley, J. Changing Families. A Therapy Reader. New York: Grune and Stratton, 1971.

Hill, R. Modern systems theory and the family: a confrontation. Social Science Information, October 1972, 10(5), 7-26.

Kantor, D. & Lehr, W. Inside the Family. San Francisco, Calif.: Jossey-Bass Publishers, 1972.

Morgan, C. & King, R. Introduction to Psychology. McGraw-Hill, Inc., 1971.

Nye, F. I. Is choice and exchange theory the key? Journal of Marriage and the Family, May, 1978, 219-33.

Olson, D., Sprenkle, D., Russell, C. Circumplex model of marital and family systems: I. Cohesion and adaptability dimensions, family types, and clinical applications. Family Process, March 1979, 18(1),

Ruben, B. D. and Kim, J. Y. (Eds.). General Systems Theory and Human Communication. Hayden Book Company, Inc., 1975.

Sprey, J. Conflict theory and the study of marriage and the family. In W. R. Burr, R. Hill, F. I. Nye, and I. L. Reiss (Eds.), Contemporary Theories about the Family (Vol. II). New York: The Free Press, in press.

Thomas, C. and Duszynski, K. R. Closeness to parents and the family constellation in a prospective study of five disease states: suicide, mental illness, malignant tumor, hypertension and coronary heart disease. Johns Hopkins Medical Journal, 134(5), 251-70.

Wilkinson, M. L. "Yes Virginia, propositions can be derived from systems theory." Paper presented at the National Council on Family Relations Theory Construction Workshop, San Diego, Calif., October, 1977.